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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/309,264 05/11/99 YODA

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EXAMINER

MMC2/0131

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ART UNIT

PAPER NUMBER

2859
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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/309,264

Applicant(s)

YODA ET AL.

Examiner

Lydia M. De Jesús

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 16 November 2000.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

Claim Objections

1. Claims 5 and 12 are objected to because of the following informalities:

On line 5 of claim 5 and similarly on line 3 of claim 12, examiner suggests to add the word <been> before the term “machined” in order to clarify the recited limitation.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al. [hereinafter Yoshida].

Yoshida discloses a work form-measuring method comprising the steps of: placing a work on a waiting position [on pallet magazine 11 via a pallet changer APC1 or APC2] after the work has been machined by a machining tool [MT1, MT2]; and bringing a probe/measuring head of a coordinate-measuring machine close to said work in a waiting position of an auto pallet changer [APC4] and then measuring the forms of and dimensions of said work (Col. 24, lines 24-31), said coordinate measuring machine being arranged in the vicinity of said machining tool, as shown in Figure 14. Inherently, said coordinate-measuring machine is capable of taking refuge to

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such a position as that said coordinate measuring machine does not prevent said work from moving.

With respect to claim 12: Yoshida discloses (See Figure 14) a coordinate measuring machine [MUNT] disposed in the vicinity of a machining tool [MT1] for getting a probe/measuring head thereof close to a work in a waiting position [in pallet magazine 11] of an auto pallet changer [APC4], having been machined by said machining tool (Col. 24, lines 24-31), placed on said waiting position, to thereby measure the forms and dimensions of the work.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida.^{in view of Dailley}

Yoshida discloses a work form-measuring method as claimed, as stated above in paragraph 3, but fails to explicitly disclose the direction of motion of said tool of the machining tool and the direction of motion of the probe/measurement head of said coordinate-measuring machine.

Dailey teaches the use of horizontal machining centers [12, 14] with rotating worktables on a closed loop machining center.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the work form-measuring method of Yoshida by selecting a probe of the coordinate-measuring machine and the tool of the machine tool both with a horizontal direction of motion, as taught by Dailey, in order to facilitate machining of various surfaces of the work by the same machine tool via rotation of the work on the worktable.

7. Claims 5- 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida in view of Dailey.

Yoshida discloses a work form measuring apparatus (See Figure 14) comprising an auto pallet changer [APC1] for moving a work between a pallet magazine and a waiting position at an inlet of a machining tool [MT1]; and a coordinate measuring machine [MUNT] for bringing a probe/measuring head thereof close to said work in a waiting position of an auto pallet changer of the coordinate measuring machine, having been machined by said machining tool, placed on said waiting position, to thereby measure the forms and dimensions of said work.

Official Notice is taken with respect to the limitations in claim 11 since it is very well known to provide a coordinate measuring machine with a rotating means i.e., pivoting worktable, for rotating the work which is placed on a measuring position.

The coordinate measuring machine inherently comprises refuge means for causing said coordinate measuring machine to take refuge to such a position as that said coordinate-measuring machine does not prevent said work from moving. The particular direction of motion in which the coordinate measuring machine takes refuge is considered to be a choice of design or engineering skill.

The apparatus disclosed by Yoshida includes a system controller that coordinates the operation of both the machine tool and the coordinate-measuring machine, and also coordinates the transport of the work between the machining tool and the coordinate-measuring machine, hence: said machining tool and said coordinate-measuring machine mutually exchange a measurement enabling signal and a measurement completion signal, both of which are related to the movement of said work by said auto pallet changers and the pallet magazine; and said coordinate-measuring machine leaves a refuge position after having received a signal of informing a change movement completion, from said machining tool, and said changer starts moving said work after having received a signal of informing a coordinate-measuring machine refuge completion.

The pallet magazine of the apparatus disclosed by Yoshida allows to set a waiting time for a work to be transported between machining steps, in instances where it is necessary to cool the work after machining by natural heat dissipation, and hence Yoshida fails to disclose one auto pallet changer moving said work between a machining position at an inlet of a machining tool and waiting position in which the forms and measures of said work are measured by a coordinate measuring machine.

Dailey shows a closed loop machining system in which a work on a pallet is displaced directly from each machining tool to the inlet of the next machining tool by a corresponding

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transfer unit/pallet changer. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Yoshida, such that one pallet changer moves the work directly from the machining tool to the coordinate-measuring machine, as suggested by Dailey in order to have a compact closed loop machining and inspection apparatus.

Information Disclosure Statement

8. The information disclosure statement submitted by Applicant on October 25, 2000 has been placed of record in the file. However, neither of the Foreign Patent Documents EP665,481A2 and EP496,968A1 have been considered because a copy of document EP665,481A2 has not been provided and further because the statement lacks a translation or explanation of relevance of these documents as required by C.F.R. 1.98. The European Search Report provided by Applicant has been considered but will not appear in the list of references cited.

Response to Arguments

9. Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fair discloses a plural machine tool and part handling control system. Osburn et al. disclose a workpiece changer mechanism for a machine tool. Murata et al. discloses a pallet changer. Cherko discloses a combination machine tool apparatus and pallet changing system. Babel discloses a pallet exchanger for machine tools. Selander discloses a workpiece changer mechanism for a machine tool. Yamaguchi et al. disclose a vertical machining center with a rotary pallet changer.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lydia M. De Jesús whose telephone number is (703) 306-5982. The examiner can normally be reached on Mondays-Fridays (8:30-6:00), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (703) 308-3875. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-3431 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

LDJ
January 29, 2001



Diego F.F. Gutierrez
Supervisory Patent Examiner
Technology Center 2800